THE NATIONAL GEOGRAPHIC MAGAZINE

Vol. XIII NOVEMBER, 1902 No. 11

CONTENTS

	PAGE
JOHN WESLEY POWELL. ILLUSTRATED	393
THE COURSE OF THE RETAIL COAL TRADE. BY DAVID T. DAY	394
SUBMERGED VALLEYS IN SANDUSKY BAY. ILLUSTRATED. BY PROF. E. L. MOSELY	398
PLACE NAMES IN THE UNITED STATES	403
AMONG THE GREAT HIMALAYAN GLACIERS	405
GEOGRAPHIC NOTES	407
GEOGRAPHIC LITERATURE	410
NATIONAL GEOGRAPHIC SOCIETY	414

Published for the National Geographic Society
By McClure, Phillips & Co., of New York

$2.50 a Year 25 Cents a Number

Entered at the Post-office in Washington, D. C., as Second-class Mail Matter.

THE NATIONAL GEOGRAPHIC MAGAZINE

AN ILLUSTRATED MONTHLY, published for the National Geographic Society, of Washington, D. C., by McClure, Phillips & Co.
All communications should be addressed to the Managing Editor of the National Geographic Magazine, Corcoran Building, Washington, D. C.
Business communications may also be addressed to McClure, Phillips & Co., at 141 East 25th St., New York City.

25 CENTS A NUMBER; $2.50 A YEAR

Editor-in-Chief: HENRY GANNETT
Chief Geographer, U. S. Geological Survey

Managing Editor: GILBERT H. GROSVENOR

Associate Editors

GENERAL A. W. GREELY
Chief Signal Officer, U. S. Army

W J McGEE
Ethnologist in Charge, Bureau of American Ethnology

C. HART MERRIAM
Chief of the Biological Survey, U. S. Department of Agriculture

DAVID J. HILL
Assistant Secretary of State

ELIZA RUHAMAH SCIDMORE
Author of "Java, the Garden of the East," etc.

MARCUS BAKER
U. S. Geological Survey

WILLIS L. MOORE
Chief of the Weather Bureau, U. S. Department of Agriculture

O. H. TITTMANN
Superintendent of the U. S. Coast and Geodetic Survey

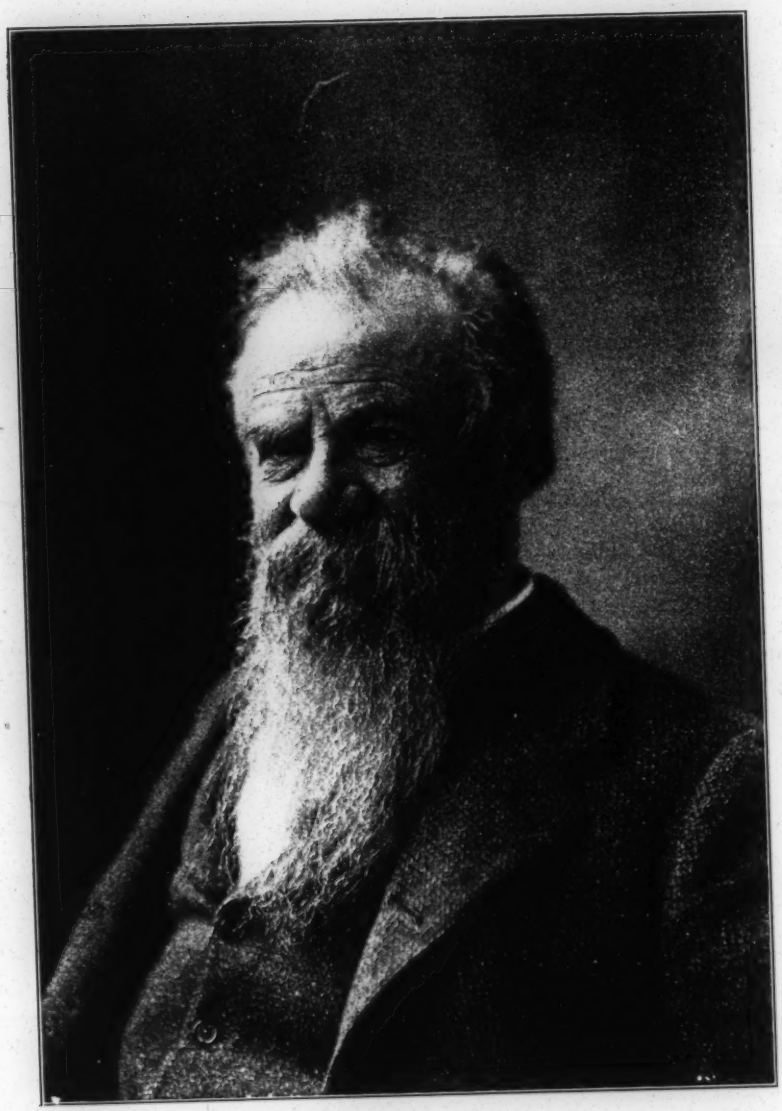
O. P. AUSTIN
Chief of the Bureau of Statistics, U. S. Treasury Department

DAVID T. DAY
Chief of the Division of Mineral Resources, U. S. Geological Survey

IDA M. TARBELL
Author of "Life of Napoleon," "Life of Lincoln," etc.

CARL LOUISE HARRISON
Principal of Philips School, Washington, D. C.

WASHINGTON, D. C.



John Wesley Powell

VOL. XIII, No. 11 WASHINGTON NOVEMBER, 1902

THE NATIONAL GEOGRAPHIC MAGAZINE

JOHN WESLEY POWELL

JOHN WESLEY POWELL died at his summer home in Maine September 23, 1902. He was born at Mount Morris, New York, March 24, 1834. Few men in the history of the United States have left behind them such a deep and lasting impression on the practical scientific work of the nation.

Major Powell was of English parentage, his father and mother settling in the United States a few months before his birth. He passed his boyhood working and managing his father's farm and gaining such education as the rural community could offer. Later he supported himself by teaching school, meanwhile working hard at his favorite studies, natural history and geology. In the pursuit of specimens for his collections he made long voyages in a skiff on the Mississippi, Ohio, and Illinois Rivers in the years preceding the Civil War. He served in the Union Army throughout the war and gained the rank of lieutenant-colonel, but he has always been known to the public as Major (not Colonel) Powell. He had lost his arm in the battle of Shiloh, and, as the wound never completely healed, he suffered fearful torture at times during the rest of his life.

The public will probably always remember Major Powell most prominently for his dramatic exploration of the Grand Canyon of the Colorado in 1868 and 1869. His modest official narrative of the journey for hundreds of miles between the perpendicular walls of the canyon aroused intense feeling throughout the country and is still read with unabating interest.

In 1879 Major Powell was appointed the first Director of the Bureau of American Ethnology, at the head of which he remained until his death. In 1881 he was also appointed Director of the United States Geological Survey, and for thirteen years guided the policy of the Survey. In this brief article it is possible to mention only some of the work he organized and developed while at the head of these great bureaus, in whose formation he had also taken a prominent part—the importance of an adequate topographic mapping of the United States, the necessity of irrigation to the West, and principally the definite and sympathetic study of the American Indians.

During the last years of his life, in order that he might give his time to his personal studies in psychology and philosophy, Major Powell entrusted to

his principal and devoted assistant, Dr W J McGee, the practical management of the Bureau of which he was the head.

Major Powell possessed a faculty of suggesting ideas to others and of inspiring others to carry them out. This element of his personality Dr G. K. Gilbert, for many years a close personal friend of Major Powell, brings out very clearly in a biographical sketch published in *Science* of October 10, 1902:

"In summarizing the results of his active life it is not easy to separate the product of his personal work from that which he accomplished through the organization of the work of others. He was extremely fertile in ideas, so fertile that it was quite impossible that he should personally develop them all, and realizing this he gave freely to his collaborators. The work which he inspired and to which he contributed the most important creative elements I believe to be at least as important as that for which his name stands directly responsible. As he always drew about him the best ability he could command, his assistants were not mere elaborators, but made also important original contributions, and the ideas which he gave the world through others are thus so merged and mingled with theirs that they can never be separated. If we count the inspiration of his colleagues as part of his work of organization, then the organization of researches may properly be placed first in the list of his contributions to the progress of science." G. H. G.

THE COURSE OF THE RETAIL COAL TRADE

By Dr. David T. Day,

Chief of Division of Mineral Resources, U. S. Geological Survey

On the average the total consumption in the United States of fuel of all kinds—hard and soft coal, wood, natural gas, and petroleum—is equivalent to about five tons of coal per year for each man, woman, and child. Of this about two-thirds of a ton is anthracite and, approximately, three tons bituminous coal. At the mouth of the mine the anthracite is worth about $1.50 a ton and the soft coal $1 a ton. As a rule, the coal must be hauled not more than 150 to 200 miles to the consumer. These figures are low, compared with the cost in other parts of the world.

The most fortunate element in these fundamental facts of our fuel supply is the short distance which the coal must be hauled from the mines to the consumer. In other words, coal deposits are very generally distributed over the United States. This is a feature of greatest consequence in our exceptional prosperity as a nation. Further, the condition of the forests is still such that where there is least coal, wood is generally cheap. Again, there are great tracts of country where natural gas, and occasionally petroleum, can be used to prevent any great rise in the price of the general fuel, coal.

It is a very difficult matter for the average citizen to reconcile this low price at the mine with the actual cost of the coal delivered at his residence. This cost at the point of delivery ranges in

ordinary times from 70 cents per ton, as a minimum, to over $10 for anthracite at a remote distance. The railroad companies seldom receive less than a dollar a ton as their total charge for loading, transporting, and distributing a ton of coal, nor often more than $2.50. Thus, on the average, the freight more than doubles the cost of the coal by the time it reaches the city for consumption.

Curiously enough, for only a few cents more than the rate for a short haul coal is often hauled over five times as many miles to competitive points. Thus the rate of hauling coal varies from one-tenth of a cent per ton for each mile hauled, as a minimum rate, to over twenty times that rate on certain short hauls. It costs the retail dealer $1 to take the coal from the cars and deliver it in the consumer's cellar. The remainder of the cost of a ton of coal to the consumer represents the dealer's profit. Thus, in New York the price of anthracite for stove size on the resumption of mining after the strike was $5.00 per ton at the dealer's yard. The cost of delivering this was as follows: Unloading at yard, 25 cents; insurance, 2 cents; screening, 10 cents; hauling to consumer, 38 cents; delivery in cellar, 25 cents—total, $1.00.

The general retail price is put down as $7.00, leaving the profit of the dealer $1.00, or 20 per cent on his cost. Under these conditions the supply of coal in the United States has been generally well up to the demand, and the trade has been fairly satisfactory; so that the public has taken little interest in the general coal supply beyond the mere price for each particular locality. The regions to be served by bituminous coal and those supplied by anthracite have, in general, been well defined. There has been keen competition at only a few points. In general, the requirements of the trade were well known and amply supplied, but late in the spring of this year anthracite mining was abruptly stopped by the great strike, and the small stock in the hands of dealers was at once at a premium. This small supply, which was weekly supplemented by meager shipments of coal washed from waste dumps at the mines, was carefully husbanded and doled out only where absolutely necessary, like food in a siege or a famine. The previously satisfactory supply of coal was profoundly disturbed. Anthracite supplied practically the entire fuel for a certain well-defined territory, including the states of New York, New Jersey, eastern Pennsylvania, and including also the principal consumers of coal as far south as Washington.

In calling this strike the miners took advantage of a favorable opportunity for continuing the discussion of issues between the coal miners and the operators, which they did not consider satisfactorily concluded at the previous great strike, which lasted from September 17 to October 27, 1900.

The issues of the strike which has just closed, as definitely stated, are as follows:

"1. That there shall be an increase of 20 per cent to the miners who are paid by the ton—that is, for men performing contract work. These men involve about 40 per cent of all the miners.

2. A reduction of 20 per cent in the time of per diem employés. The mines are operated about 200 days per year, ten hours per day. This demand, if granted, would result in reducing the day to eight hours (20 per cent), so that the mines would be operated 240 days at about the same pay; hence an equivalent of 20 per cent increase in the earnings, no increase in the rates of per diem employés being demanded.

3. That 2,240 pounds shall constitute the ton on which payment is based for all coal mined where the miners are paid by weight. This would apply in

any district where weighing coal would be practicable and to those miners who are paid by the quantity, and not to those paid by the day.

These are the specific demands formulated from alleged grievances existing in many ways at many of the collieries. They have been sources of increasing irritation between the miners and their employers for many years. Many of them have actually resulted from efforts of mine managers to devise the most intelligent means to make the amount of money earned the same in different mines for the same amount of work. Owing to the varying conditions in the different mines, particularly the varying thickness of the veins in which the miners work, different rates of pay are necessary where the miner is paid according to the amount mined. The amount which a miner should receive for a ton of coal is further complicated by the proportion of slate which he sends to the surface in the coal. Rank carelessness in this respect on the part of the miner has led to much irritation with the company. It has led to the practice of guessing as to how much worthless slate is contained in every car of coal which is sent to the surface. Although the guessing is usually close, it is recognized as guess-work, and the miners are never contented with any system of book-keeping in which guess-work forms part. Guess-work and irritation will always be intimately associated in the anthracite mines.

Among the different plans for adjusting the amount of wages to be paid in mining different seams of coal, the very intelligent method has frequently been used of paying a uniform price per car-load, and then varying the size of the car so as to fit the thickness of the vein in which the miner worked, so that the thinner the vein and the more difficult the mining, the less coal required to constitute a car-load. This varying car-load has always been looked upon with suspicion by the miner and has added to the general irritation.

The coal strike of 1900 raised the general wages 10 per cent and did away with the artificial price charged for powder. The other sources of irritation remained and formed a considerable incentive for continuing the efforts for further discussion of the whole wage question with the operators at the first convenient opportunity. It must be pointed out also that beside the question of an arbitrary docking of the miner for slate in his coal, and the variable size of the car used, some change in the rate of pay, or, what is the same thing, the length of a day's labor, must be made in favor of the men who work by day's labor, if the newly made alliance of the anthracite miners with the United Mine Workers of America should be continued. Therefore, to hold all the day laborers, the engineers, pumpmen, etc., in the organization, the other claims were added to the formal demands on the operators. The strike promptly resulted on the 12th of May, when the operators refused even to consider these grievances, claiming with considerable justice that the settlement after the strike of 1900 had been accepted by the miners as satisfactory. On May 22 even the so-called "washeries," where the finer sizes of anthracite are separated from the old refuse dumps which have accumulated for many years, closed down. On June 2 the union, recognizing that the engineers and pumpmen were prospective gainers by the strike, called on the men to abandon the pumps and join in the strike. These men have heretofore been exempt from striking. They are employed permanently by the companies, and their work must go on, day and night, permanently, in order that the mines may be kept in good condition for future work. Calling them out involved a radical change in the attitude of the strikers. The irritation between the strikers and employers was manifestly increased, with

the result that troops were ordered to the mines and preparations for a long fight were completed on both sides.

Although bituminous coal is the popular steam-raising fuel in most industrial centers, this is not the case in the neighborhood of New York, and few people appreciate the enormous number of manufacturing interests in the vicinity of the great metropolis. The supply of anthracite was rapidly cut off, and it was necessary to divert soft coal from its regular channels to supply a shortage of about one-fifth of our total supply and to furnish it in a region of the greatest industrial activity. To many small industries it brought great hardship; to laundries and bakeries, for example. It requires half a pound of coal to bake a loaf of bread.

Anthracite is looked upon as the fuel for household use, but the famine came in the warmer months, when none was needed for house-heating. The great majority of the users of hard coal took little heed of it, nor did the general public have any conception of the hardships actually suffered by industrial enterprises around Philadelphia and New York in securing a substitute for anthracite.

In 1898 the price of soft coal was much lower than now, on account of overproduction. At first sight it would appear probable that this extra demand for soft coal to replace anthracite would have furnished a welcome outlet for extra production. Such was not the case. The soft-coal producers had reduced their yield and had also fortified themselves by yearly or longer contracts. It was necessary to fill these contracts, and only the surplus was available for the new trade. A more important obstacle to the relief from the bituminous mines was the difficulty in furnishing cars and motive power for hauling the coal from more remote bituminous mines. The capacity of the railroads had been limited closely to the previous conditions, in fact, too closely; for a shortage of cars was felt even under normal conditions in the previous year. Recognition of this condition made it worse, for every one hoarded coal. Thus an anthracite famine in the seaboard territory led to general coal scarcity far beyond the region of anthracite's usual influence.

Our average citizen is habitually trustful and good-natured, and as long as continued warm weather postponed the necessity for house-heating, he dismissed the coal situation with faith that coal would be forthcoming by winter. By October 1, however, it was evident that the end of the strike was as far removed as ever. The efforts of Pennsylvania's political forces to secure a compromise were futile. This strengthened the miners and also reinforced the determination of the operators. The outlook at once became serious, and the condition was laid clearly before the people by the action of the President. This action served two other valuable purposes; it caused the Governor of Pennsylvania to use all his resources for the maintenance of peace in the anthracite coal region, and it served notice on the retail dealers who were hoarding coal that the strike was soon to end. In fact, they had less than two weeks in which to market their hoarded reserves. With the calling of the conference on October 3 went the full assurance to every one that the strike would be ended by the President.

This article is designed, not to show the course of the great strike; still less to point out any lines of just and permanent settlement—conclusions which must follow the careful investigation of the Commission—but to outline the past and prospective course of the retail coal trade. The announcement of the close of the strike marked high tide in the bituminous coal prices. The haste of all the producers to market every ton possible while high prices prevail, can

have only one result—lowering prices to somewhere near a legitimate basis. The anxiety of the householder to fill his cellar at the present time is materially lessened by the hope of cheaper coal in the near future. In the meantime the coal scarcity has aroused great interest in all practical (and many impracticable) substitutes for this kind of fuel. The recent interest in the oil fields of Texas rendered logical the efforts to substitute fuel oil for coal, and yet these efforts were practically fruitless, simply because in the territory particularly concerned, oil can never be a cheap fuel for heating purposes. It may be that the coal famine caused some slight advances in the construction of devices for burning oil in stoves and furnaces, but even when perfected, the cost of the fuel would be prohibitive. It can be briefly stated that oil at ten cents per gallon is about the equivalent of coal at $20 per ton. It is quite possible that a beneficial result from the efforts to use oil may come at some time in the future, when the discovery of some new crude oil field may make it possible to spray crude oil into furnaces with an ordinary steam jet, with an economical result, and with the many advantages which come from a liquid fuel. But many devices recommended, such as soaking bricks with kerosene, must be dismissed as absolutely unworthy of consideration.

It may also be possible that the advance in the construction of devices for burning refined oil, similar to the type of burners furnishing the Kitson light, may be sufficient to furnish a useful means of heating kitchen ranges in the summer time, in the place of illuminating gas. The two substitutes for anthracite which on the whole have gained in favor by means of the strike are bituminous coal and its two products—coke and illuminating gas. The use of gas ranges has permanently increased as a result of the strike. The advantages of coke have become more manifest, and the advantages of soft coal in raising steam, even in household steam-heating plants, have been very favorably received by the public. On the other hand, the regret which will be felt at the general introduction of soft coal and its accompanying pall of smoke are so great as to justify much further endeavor to market this soft coal after it has been converted into the more agreeable forms of cheap fuel—gas and coke.

SUBMERGED VALLEYS IN SANDUSKY BAY

BY PROFESSOR E. L. MOSELY, SANDUSKY, OHIO

AMONG the captains o vessels and others who have occasion to notice the stage of the water from time to time, the impression prevails that Lake Erie is getting lower, and that many of the harbors now in use are likely to become unsuited to deep-draft vessels. Some of them remember the high water of 1858–1860, higher than they have ever seen since, while so recently as 1895 the water was lower than they had ever seen it before. Since 1895 it has been rising, and now stands about 16 inches higher than at the same time last year. These fluctuations are due mainly to variations in the rainfall on the drainage basins of Lake Erie and the upper lakes. This year at Sandusky, in the two months June and July, more than half as much

rain fell as in the fourteen months beginning January, 1901. Examination of Weather Bureau records since the establishment of stations at upper lake ports shows that unusually high water in Lake Erie has been preceded by periods of unusually heavy rains.

If, however, considerable periods of time are considered, there is abundant evidence to show that the lake is deepening instead of getting shallower, as limited observation has seemed to indicate; nor is the process too slow to be noticed in a lifetime. Old men who were living only a few years ago at Put-in-Bay, Port Clinton, and Sandusky could remember that when they were boys there was little or no water

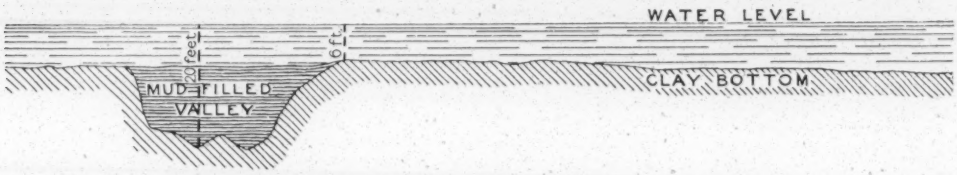


Figure 1.—East and West Section—One Mile Long

where it has since been several feet deep. Testimony of many witnesses in a lawsuit at Sandusky in 1844 showed that east of the city the water had been deepening since about 1823. Gauge readings at Erie and elsewhere show that at several times in the first half of the nineteenth century the water was lower than it has ever been since, and in the first quarter of the century considerably lower than in the second quarter. The high water of 1858–'60 killed many trees that stood on the border of marshes connected with the lake. Hickory, walnut, elm, and sycamore of large size and probably more than 200 years old were killed at this time by high water keeping the ground too wet around their roots. Stumps are still standing with roots in place, their tops now below the level of the lake. In the caves of Put-in-Bay stalagmites and stalactites, which can be formed only in the air, may be seen several feet below the present lake level, where they are being slowly dissolved.

If we look for a cause of this deepening of the lake, it is to be found in a slow tilting of the earth's crust in the Great Lake region.

The old beaches so much utilized for roads in northern Ohio and farther east are roughly parallel with the south shore of Lake Erie, but several miles away from it. They were formed at the margins of glacial lakes whose waters, being confined by the ice on the north and northeast, found an outlet to the Mississippi, first at Fort Wayne, Indiana, and later at different places across Michigan, the different beaches corresponding to the different levels of the outlets. Each beach at the time of its formation was approximately level, being formed at the margin of a lake. Now, however, they show a rise as they are traced eastward. The Forest beach, upon which Euclid Avenue, Cleveland, is laid out, is the lowest and most recent of these beaches. "At Crittenden, N. Y., it is 168 feet higher than at Cleveland."* This shows a rise of the whole region to the east as compared with that to the west, involving a rise of the outlet of Lake Erie as compared with the rest of the lake and causing a deepening of the water, especially at its western end.

Examination of the lake beaches does not show whether the tilting of the earth's crust is still going on or ceased centuries ago. By comparing

* Leverett.

the heights above the normal lake level in 1895 of a bench-mark in Cleveland and one at the head of the Welland Canal with the heights of the same as carefully determined in 1858, G. K. Gilbert found that the point near the northeast end of the lake rose as compared with the point in Cleveland. (See the NATIONAL GEOGRAPHIC MAGAZINE for September, 1897.) This tilting of the Great Lake basins, still continuing, is doubtless the cause of the deepening of the water witnessed by old residents and shown by gauge readings and the submergence of stalagmites and stumps. That it was going on continuously for centuries before the first settlements were made on the shores of the lake and before the oldest trees killed by the high water of 1858 began to grow we have considerable evidence to show.

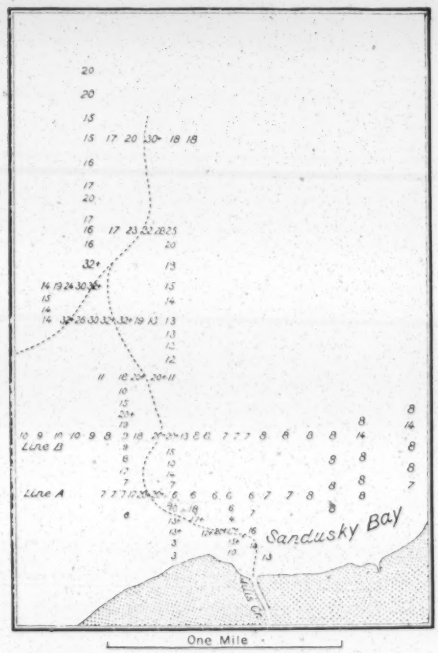


Figure 2.—Depth in Feet to Clay

As the lake has deepened it has extended over the lowlands about its western extremity, forming marshes at the mouths of all the streams, making bays of some of the marshes, converting peninsulas into islands and islands into reefs. At many places in northern Ohio roads and houses have been moved south on account of the encroachment of the water. Many orchards have fallen into the lake. The same is true of the Canadian shore. Nowhere is there any building up at all comparable with the amount of land lost. Since 1809, when the first survey was made, more than 500 acres have been lost in Erie county along the lake and in the eastern part of Sandusky Bay, while the enlargement of the western part of the bay probably amounts to several square miles. That Put-In-Bay, Kelleys Island, and the others in the western part of Lake Erie were cut off from the mainland in earlier centuries by the gradual extension of the lake is shown by a study of their flora. All the plants that are well distributed in similar soil on the mainland are found also on the islands, and it is difficult to see how some of them could have reached the islands while the latter were separated by such wide expanses of water as now exist. (For a full discussion of this see Sandusky Flora, Ohio State Academy of Science, Special Papers, No. 1.)

As the water has risen it has extended the lake level into the valleys of streams, so that navigable water is found along the lower portion of many streams whose drainage area is so small that the stream, if seen at any point above slack water, might be regarded insignificant.

In January, 1901, an attempt was made to trace out into Sandusky Bay the valleys of some of the streams that enter it by examining the bottom with an auger suitably rigged. The plan proving feasible, the work was continued as long as the ice was safe that winter and the next. The bottom of the

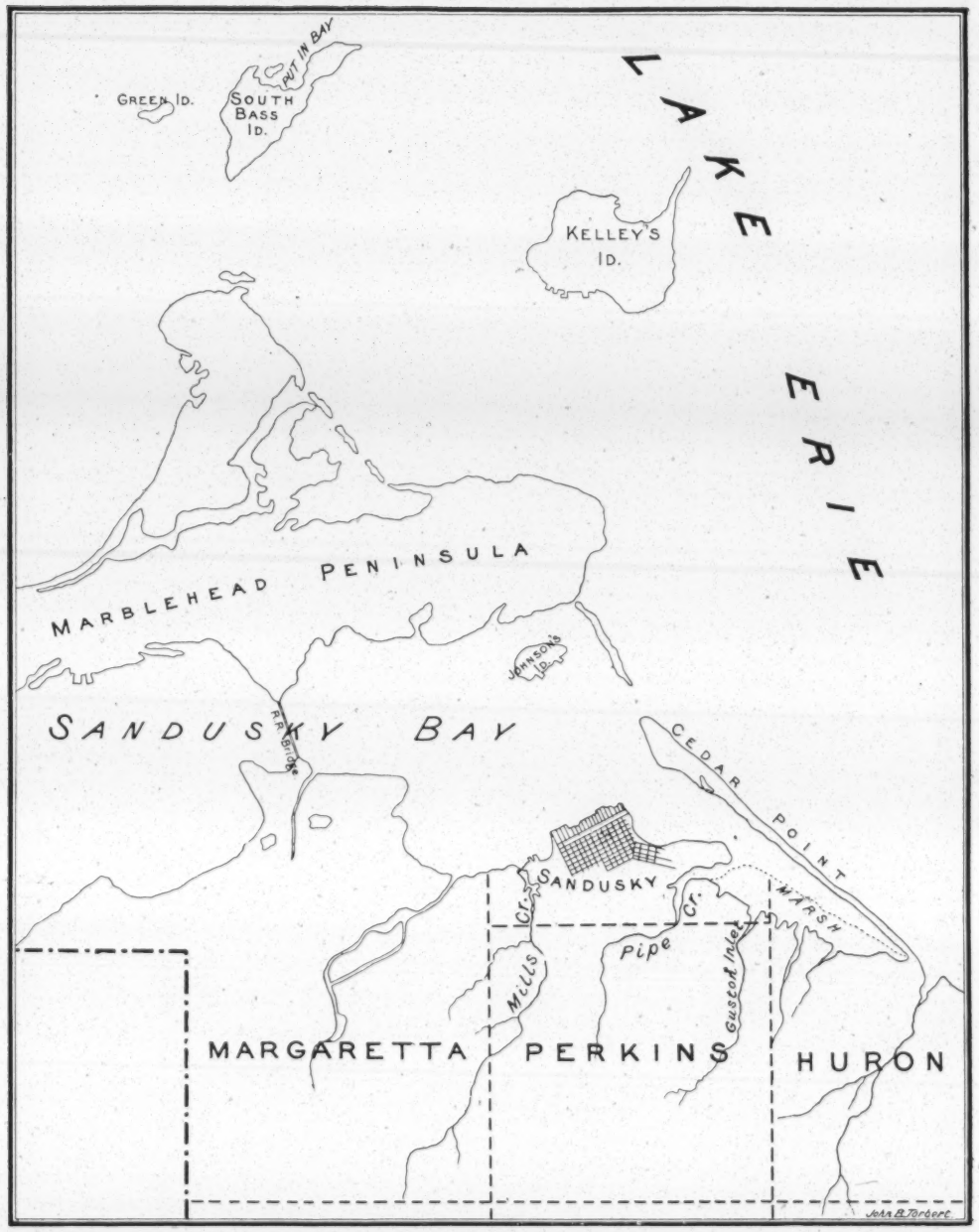


Figure 3.—Sandusky and Vicinity

bay is nearly level, so that soundings giving the depth of the water do not disclose any valleys. By testing the bottom at numerous points along lines transverse to the general course of the stream, it was found that off the mouth of each stream was soft mud containing organic matter and readily distinguished from the glacial drift on either side. It had been thought that the glacial clay might be softened by being covered by water so long, but experience showed that as a rule the weight of two men would push the auger but a few inches or a foot or two into this clay, whereas it might be pushed 20 feet or more into the deposits made since the glacier. The agitation of the water by waves has caused the loose mud to fill the original valleys, making the bottom of the bay approximately level. These valleys, made by the streams when they flowed miles farther than now to reach the lake, are thus traceable by the lines of soft mud.

Figure 1 shows a cross-section of the valley of Mills Creek, three-eighths of a mile out from the present mouth.

Figure 2 shows the depth in feet to clay in the part of Sandusky Bay extending north from the mouth of Mills Creek a distance of 2 miles. To avoid crowding, some of the numbers have been omitted. Along line A were made 41 holes 8 rods apart. Excepting near the western end, they show the clay to be everywhere 6 to 8 feet below the surface—such uniformity as to indicate that the original inequalities were planed off by wave action. Line B, parallel to A and almost 2 miles long, shows nearly as much uniformity. From the place of deep mud on line A a line of deep mud extends to the present mouth of Mills Creek and in the opposite direction to the line of deep mud that marks the former course of the Sandusky River.

The valleys of two streams east of the city, Pipe Creek and Guston Inlet, one in the open bay and one in the marsh

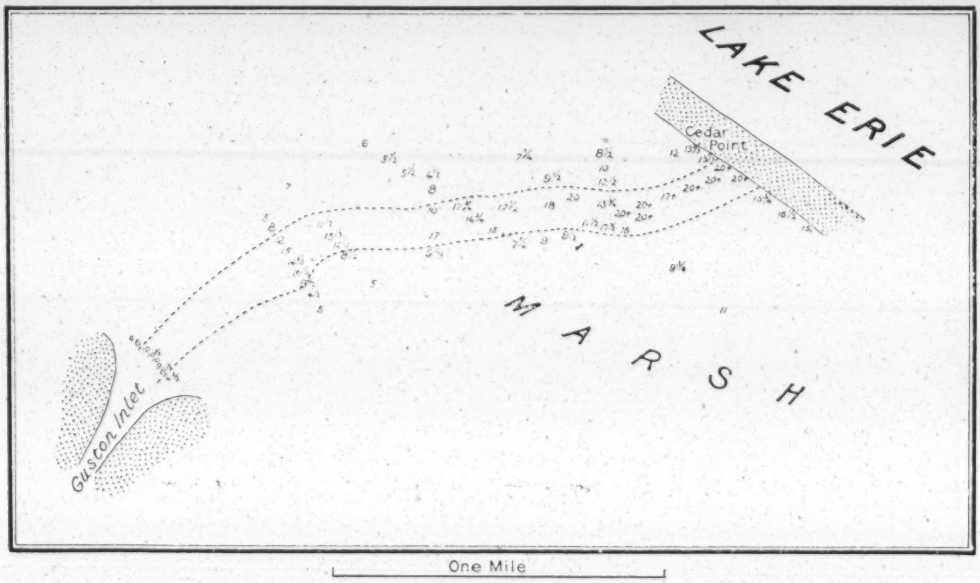


Figure 4.—Valley Extending Under Marsh from Guston Inlet to Cedar Point

(see figure 3), have been traced across to Cedar Point and the valleys of five other streams entering the bay or marsh traced for short distances or intersected by lines of holes at one or more places. The submerged valley of Sandusky River, which empties into the west end of the bay, was intersected by six north and south lines. It reaches a depth of more than 40 feet before entering the lake.

The valley extending under the marsh from Guston Inlet to Cedar Point was one of the easiest to trace. Along the belt indicated on figure 4, not much wider than the valley of the brook before it enters the marsh, 35 holes were made through the muck. At all of them the hard bottom is deeper than at the nearest holes outside the lines. The present channels through the marsh do not follow the buried valleys.

In the deeper parts of these valleys in the marsh the auger penetrates 20 feet of organic matter, and with an extension piece this would doubtless be found to extend several feet lower. In the open bay the valleys are filled with mud, the lower portion of which contains an abundance of molluscan shells and vegetable matter.

In some places, even at a depth of 32 feet, the peat shows that a marsh existed there when the lake was that much lower. These buried marshes seem to indicate that the depression of the land has not been interrupted by any periods of elevation sufficient to allow the streams to carry away the remains of the marsh vegetation.

In attempting to trace the valley of Mills Creek I found a small valley north of Sandusky which I supposed for some time to connect with Mills Creek, but which proved to be an extension of a little stream that formerly flowed through the city, whose water was long ago diverted to sewers. Along its course the streets had been graded and the yards filled, so that probably very few, excepting the older residents, knew that a natural stream once flowed past their premises.

The discovery of these submerged valleys in Sandusky Bay is an additional verification of the theory that the postglacial tilting of the Great Lake basins has not yet ceased.

PLACE NAMES OF THE UNITED STATES

THE origin of some ten thousand place names in the United States is given in a recent bulletin by Mr Henry Gannett, published by the U. S. Geological Survey. The names are well distributed throughout the country. The author, in his preface, disclaims universal accuracy, but hopes that the work may arouse interest and criticism, so that all possible information on the subject may be obtained and published in a later edition. There is much difference of opinion about the origin of many names, as the following extracts from the bulletin well illustrate:

Chicago; city and river in Illinois. The origin of the word is from the Indian, being a derivation by elision and French annotation from the word Chikaug-ong. Col. Samuel A. Starrow used the name in a letter to Gen. Jacob Brown, in 1816, as follows: "The River Chicago (or in the English, Wild Onion River)." Schoolcraft in 1820 said: "Its banks . . . stated to produce abundantly . . . the wild species of cepa or leek." Bishop Baraga gives: "From Chicag, or Sikag, 'skunk,' a kind of wild cat." John Turner defines skunk as she-gahg; onion, she-gau-ga-winzhe, "skunk

weed." When the word first appeared the country was inhabited by a tribe of Miamis, in whose dialect the word for skunk was "se-kaw-kwaw." It is said that the wild cat, or skunk, was named from the plant.

Coney; island at the extremity of Long Island, New York, which is said by some to have been so named because of the numbers of rabbits there. Another theory ascribes it to the winds having driven the sand into truncated cones. It appears, however, to have been originally called Congu, which may suggest another derivation.

Chesapeake; bay in Maryland which gives name to several places in the country. An Indian name variously explained. Heckewelder says it is corrupted from Tschischwapeki, which is compounded of kitshi, "highly salted," and peek, "a body of standing water, a pond, a bay." Others give che, "great," and sepi, "waters." Bosman interprets it as "mother of waters." W. W. Tooker says that the early form was Chesepiooc, from k'che-sepi-ack, "country on a great river."

California; one of the states of the Union. This name was applied by Cortez to the bay and country, which he supposed to be an island. The name is that of an island in an old Spanish romance, where a great abundance of precious stones were found. Eight post-offices bear this name.

Canada; villages in Marion County, Kansas; Pike County, Kentucky, and Muskegon County, Michigan, named from the Dominion of Canada. Authorities differ as to the derivation of this name. Father Hennepin says the Spaniards were the original discoverers of the country, but upon landing they were disappointed in the general appearance, and expressed their feelings by saying, "Il capa di nada," "Cape Nothing." Sir John Barlow says the Portuguese, who first ascended the St. Lawrence, believing it to be a passage to the Indian Sea, expressed their disappointment when they discovered their mistake by saying "Canada," "Nothing here." This the natives are said to have remembered and repeated to the Europeans who arrived later, who thought it must be the name of the country. Dr Shea says the Spanish derivation is fictitious. Some think it was named for the first man to plant a colony of French in the country, Monsieur Cana. Charlevoix says the word originated with the Iroquois Indians, Kanata, or Kanada, "a collection of huts, a village, a town," which the early explorers mistook for the name of the country. Other etymologies propose the two Indian words, Kan, "a mouth," and ada, "a country;" hence "the mouth of the country," originally applied to the mouth of the St. Lawrence. There is a respectable authority that the name was first applied to the river. Lescarbot tells us that the Gasperians and Indians who dwelt on the borders of the Bay of Chaleur called themselves Canadaquea; that the word meant "province or country." Sweetser says that the word came from the Indian Caughnawaugh, "the village of the rapids." Brant, the Indian chieftain, who translated the gospel into his own language, used the word canada for "village."

Chautauqua; county in Kansas; county, lake, and town in New York. An Indian word which has been the subject of much controversy. Webster says it is a corruption of a word which means "foggy place." Another derivation gives the meaning as "bag tied in the middle," referring to the shape of the lake. It is also said to mean "place where a child was washed away." Dr Peter Wilson, an educated Seneca, says it is literally "where the fish was taken out." Other meanings given are "place of easy death," "place where one was lost."

Brandywine; creek in Pennsylvania.

According to a tradition, the name is derived from the occasion of a vessel laden with brantewein (brandy), which was lost in its waters. Other authorities derive it from Andrew Braindwine, who owned lands near its mouth in early days. A third theory is that the slough near Downington discharged its muddy waters into the creek, tinging it the color of brandy. A celebrated battle was fought there, which accounts for the name being given to eight places in the country.

Des Moines; river, county, and city in Iowa. This name is thought to have been derived from the Indian word mikonang, meaning "the road." This name was applied by the Indians to a place in the form of Moingona, which the French shortened into Moin, calling the river "rivière des moins." Finally the name became associated with the Trappist monks, and the river by a spurious etymology was called "la rivière des moines," "the river of the monks."

Laramie; county and city in Laramie County, Wyoming, named for Jacques Laramie, a French trapper.

San Francisco; bay, county, and city in same county, in California, said by some to have been named for the old Spanish mission of San Francisco de Assisi; by others to have been named for the founder of the order to which Father Junipero, the discoverer of the bay, belonged.

Delaware; river, state, counties in Indiana, Iowa, New York, Ohio, and Pennsylvania, named for Lord de la Warr, governor and first captain-general of Virginia. Many small places also bear this name. A tribe of Indians were known by this name, and in the case of the county in Indiana, the name was given because this tribe had villages within the boundaries of the county.

Niagara; county in New York and river between Lake Erie and Lake Ontario. An Indian word meaning "across the neck or strait," or "at the neck."

Shenandoah; county and river in Virginia, city in Page County, Iowa, borough in Schuylkill County, Pennsylvania, and town in Page County, Virginia. An Indian word said by some to mean "the sprucy stream;" by others, "a river flowing alongside of high hills and mountains;" and still another authority states that it means "daughter of the stars."

Massachusetts; one of the thirteen original states. An Indian word meaning "at or near the great hills." According to other authorities, "the hill in the shape of an arrow-head," "great hill mouth," "the blue hills."

Montana; state in the Union. A Latin word meaning "mountainous region," and applicable to this State on account of the nature of its topography.

Mississippi; state of the Union, counties in Arkansas and Missouri, and river, one of the largest in the United States. An Indian word meaning "great water" or "gathering in of all the waters" and "an almost endless river spread out."

AMONG THE GREAT HIMALAYAN GLACIERS

DR WILLIAM HUNTER WORKMAN and Mrs Fanny Bullock Workman, life members of the National Geographic Society, have returned to India from their third expedition into the higher Karakoram Himalayas. The object of their last journey was the exploration of the great Chogo Lungma Glacier in Baltistan. This they successfully accom-

plished, following the glacier to its source, 30 miles northwest of the village of Arandu, and also throughout their whole course three of its large terminal tributaries. In all, 55 miles of glacier were examined. This is the first time the upper half of this glacier and its branches have been visited. Its delineation on the maps was found entirely incorrect and mostly the work of imagination.

The Chogo Lungma ascends from its end to its point of origin over 9,000 feet, exceeding in this respect by 3,000 feet the Biafo Glacier, explored by the same parties in 1899. It takes its rise in a wall of ice and snow, the top of which is 20,000 feet, connecting two high peaks, one of which has been fixed by the Indian Survey at 24,486 feet, and the other is not much lower.

Its upper part takes one among a group of mountain *massifs*, several of which reach heights of over 24,000 feet, in the highest degree beautiful, majestic, and impressive. Its surface is much broken. In many parts wide crevasses seam it in every direction, huge séracs of curious and varied forms shag it, and in the higher portions ice falls tax the skill of the explorer to find a way through and around them.

The glacier bears several large medial moraines 80 to 100 feet high, contributed by the terminal branches. A deep depression at one point is occupied by a good-sized lake. Impassable ice falls occur in most of the tributary glaciers. The gradient is gentle except for the last few miles, where it is sharp.

One of the branch glaciers leads to a broad ice pass at a height of 17,500 feet, beneath the northern slopes of Mt. Haramosh, 24,285 feet, whence another glacier plunges rapidly downward to valleys leading to the Indus.

First ascents were made of four peaks and two cols. One of the last, a wall of ice covered with snow rising at angles of 45° to 60°, afforded a climb of exceptional alpine difficulty. Every step had to be cut from 6 a. m. to 1.30 p. m., when the crowning ridge, something over 19,000 feet, was reached. The descent was more difficult and dangerous than the ascent, owing to the softening of the covering layer of snow by the burning sun.

The weather was unfavorable most of the time. Scarcely two days in succession were clear. Much new soft snow was met with in the higher parts of all the glaciers, rendering progress slow and difficult. The depth at one point measured 34 inches, which was a fair average over considerable distances covered. The party was detained at one high camp sixty hours by a severe snow-storm.

Many days and nights were passed at high snow camps at altitudes of 16,000 to over 19,000 feet. Stone cairns were built at points where the material for building them existed, in which records were left.

To the three altitude records made by Mrs Bullock Workman on the last expedition, the highest being 21,000 feet, she has now added a fourth, being the only woman who has made the first ascent of one of the great Himalayan glaciers or any other of equal size.

The thanks of the explorers are due to the English officials at Srinagar for moral and material aid in obtaining transport, and to His Highness the Maharaja of Kashmir and his brother, Gen. Raja Sir Amar Singh, who took a friendly interest in the expedition, ordering all officials along the route taken to provide coolies and supplies and render any other needful assistance.

Dr. Karl Oestreich, of Frankfurt, accompanied the expedition as topographer and Mattia Zurbriggen and Muller Giuseppi as guides. Many photographs were secured.

F. B. W.

GEOGRAPHIC NOTES

U. S. SIGNAL CORPS

THE phenomenal progress of the U. S. Signal Corps in binding together and unifying the distant possessions of the United States, the Philippine Islands and Alaska, is strikingly emphasized by figures given in the report of Gen. A. W. Greely, U. S. A., for the last fiscal year. During the year the telegraph system in the Philippines was increased by 2,600 miles. There are now 6,434 miles of telegraph and cable lines in the islands. Of this aggregate 1,326 miles are submarine cable lines and 6,434 land lines. Every mile of these lines has been laid by the Signal Corps in four years. Perhaps even more remarkable than the splendid work in the Philippines are the achievements of the corps in Alaska, where in two seasons 1,121 miles of land lines and submarine cables have been laid. This work not only included the surveying and the construction of the line, but also meant the transportation of hundreds of tons of material, instruments, etc., over distances varying from 4,000 to 7,000 miles. "The toil and hardship experienced cannot be fairly appreciated by any one unfamiliar with Alaskan trails. Suffice it to say that every pound of forage, tentage, etc., wire, insulators, or line material has to be moved by pack animals over a trail so rough that an animal can hardly travel fifteen miles a day." A message from Fort St. Michael, opposite Nome, can now be wired to Skagway by an all-American line, and from Skagway forwarded by the Canadian line between Dawson and Ashcroft to the United States.

During the year the Signal Corps turned over to the Cuban Government 3,500 miles of wire and equipment, which General Greely's men had put in during the American occupation. Of this work General Greely says:

"It is unquestioned that on occupying Cuba the American army found a few dilapidated telegraph lines, operated by antiquated methods, with tariff rates increasing in proportion to the length of the message, without free delivery, and with grave uncertainties as to espionage, secrecy, and delivery. This system, bad as it was, served only the western half of the island. In leaving Cuba there was turned over to the government a system of 3,500 miles, extending from San y Martinez, in the west, to Cape May, in the extreme east, with every seaport or town of importance electrically connected. The present instruments are of the best modern types, the transmission speedy and reliable, and the tariff rates exceedingly low, while the certainty of delivery and inviolability of messages are beyond question."

DAVID CHARLES BELL.

DR DAVID CHARLES BELL, one of the first members of the National Geographic Society, died at his home in Washington, October 28, 1902, in his eighty-sixth year. Dr Bell was a noted educator and Shakespearean scholar. Among his writings are: A "Reader's Shakespeare," in three volumes; "The Theory of Elocution"; "Modern Reader and Speaker," and "The Standard Elocutionist." His "Speaker" for nearly fifty years has been a standard work in the colleges and universities of England and America. Twenty editions of the volume have been published. Mr Bell was born in St. Andrews, Scotland, in 1817. After some years of study at the University of Edinburgh, he became professor of English literature at Dublin University. In 1875 he came to America, first settling in Canada, and later, in 1883, moving to Washington, D. C.

RUSSIAN AND AMERICAN PETROLEUM

THE Division of Mineral Resources of the Geological Survey has published some interesting figures comparing the Russian and American production of petroleum and showing the extent to which oil is used in Russia as fuel.

Since the year 1897 Russia has produced more petroleum than the United States. Beginning with 1897, the Russian production has been increasing by an average of over 12 per cent each year to the close of 1901. In round numbers, the figures of production for the two countries are as follows: 1897—Russia, 54,000,000 barrels; United States, 60,000,000 barrels. 1898—Russia, 62,000,000 barrels; United States, 55,000,000 barrels. 1899—Russia, 66,000,000 barrels; United States, 57,000,000 barrels. 1900—Russia, 76,000,000 barrels; United States, 64,000,000 barrels. 1901—Russia, 85,000,000 barrels; United States, 69,000,000 barrels. The average annual increase during the five years for Russia has been 12.57 per cent; for the United States, 2.89 per cent, there having been a small decrease in the production of the United States in 1897 and a large decrease in 1898.

The facilities for handling the large Russian production are at present crude, costly, and wasteful. The markets are far away from the production. The main foreign shipping port at Batum, on the Black Sea, is separated by mountain chains from the chief center of production (Baku) on the Caspian Sea. To reach Batum the oil must run 160 miles through pipes and then be carried 400 miles by railroad. Four-fifths of the Russian oil is carried in boats up the Volga River into the heart of European Russia. At least two-thirds of the Russian oil is used for fuel.

The total exports of petroleum, crude and refined, from Russia to foreign ports in 1901 were 428,657,210 gallons. This was less than one-half the total exports of petroleum from the United States in 1901, which amounted to 1,062,750,306 gallons, valued at nearly $71,500,000.

The very great difference between the petroleum of the United States and that of Russia is shown in the statistics of refined petroleum. Of the total world's production of crude petroleum in 1901, 165,385,733 barrels, the United States produced 69,389,194 barrels, or 41.97 per cent, and Russia produced 85,168,556 barrels, or 51.49 per cent; and yet of the total production of refined petroleum of all grades in 1901, estimated at 1,500,000,000 gallons for all countries, the United States produced 911,120,944 gallons, or 60.7 per cent, and Russia 414,122,990 gallons, or only 27.7 per cent.

GEOGRAPHICAL SOCIETY OF BALTIMORE

ON October 17 a number of scientific gentlemen and of those interested in geographic science met in Baltimore at the home of Dr D. C. Gilman and organized the "Geographical Society of Baltimore." The aim of the society is the promotion and diffusion of geographical knowledge, more particularly of that which is of commercial importance to Baltimore. Vice-President W J McGee, LL. D., represented the National Geographic Society and extended its congratulations and well wishes to the new organization. Dr Gilman, who is also one of the Board of Managers of the National Geographic Society, was chosen first President and the following officers and trustees were elected:

First Vice-President—Mr Bernard N. Baker.

Second Vice-President—Rev. Dr John F. Goucher.

Third Vice-President—Gen. Lawrason Riggs.

Treasurer—Mr Robert Garrett.

Secretary—Dr George B. Shattuck.

Board of Trustees—President, Daniel C. Gilman; Mr Chas. J. Bonaparte, Mr Waldo Newcomer, President Ira Remsen of the Johns Hopkins, Gen. Lawrason Riggs, Mr Bernard N. Baker, Dr Fabian Franklin, Mr R. Brent Keyser, President L. F. Loree of the Baltimore and Ohio Railroad Company, Mr Eugene Levering, Mr George R. Gaither, Prof. William B. Clark, Mr Blanchard Randall, Dr Harry Fielding Reid, Superintendent of Public Schools James H. Van Sickle, Mr Robert Garrett, Mr C. Morton Stewart, Dr Bernard C. Steiner; Mr Gilbert Fraser, British Consul; Mr George A. Von Lingen, German Consul; Mr Antonio C. de Magalhaes, Brazilian Consul; Mr J. R. Foard, Mr Robert Ramsay, Dr George B. Shattuck, Mr George Cator, Mr John E. Hurst, Mr William H. Perot, Dr John F. Goucher, Mr Charles K. Lord, and Dr R. W. Woods.

DECISIONS OF THE U. S. BOARD ON GEOGRAPHIC NAMES

October 1, 1902

Blackman; stream flowing from Chemo Pond, Penobscot County, Maine (not Chemo nor Nichols).

Calabasas; arroyo, peak, post-office, and township, Los Angeles County, California (not Calabazas nor Calabaces).

Chaparral; gulch, post-office, and railroad station, Yavapai County, Arizona (not Chaparal).

Chemo; pond, Penobscot County, Maine (not Nichols).

Chestatee; militia district (Lumpkin County), and river, Georgia (not Chostatee nor Chosteta).

Chocowinity; bay, creek, post-office, and township, Beaufort County, North Carolina (not Chockowinity).

Conetoe; creek in Edgecombe and Pitt Counties, post-office, railroad station, and two townships (Upper and Lower) in Edgecombe County, New York (not Coneeto, Coneto, Congeto, nor Keneighton).

Conoho; creek, post-office, railroad station, and village, Martin County, North Carolina (not Coniho nor Goose Nest).

Elkahatchee; creek in Coosa and Tallapoosa Counties, Alabama (not Elkehatchee nor Elkhatchee).

Indian Guyan; creek in Gallia and Lawrence Counties, Ohio (not Guyandotte nor Indian Guyandotte).

Lattintown; post-office in Marlboro, Ulster County, New York (not Lattingtown nor Latintown).

Malibu; creek, land grant, and point, Los Angeles County, California (not Malaga, Malibo, Topanga Maliba Sequit, nor Topanga Malibu Sequit).

Padelford; creek, post-office, railroad station, and village in Canandaigua township, Ontario County, New York (not Paddlefords).

Powells; post-office and railroad station, Marion County, West Virginia (not Powell)

Roquist; creek and pocoson (swamp), Bertie County, North Carolina (not Rocquist, Roquest, Roquewhist, nor Rakwis).

NOTE—From the Catawba word "rakwis," meaning turtle.

Rosier; cape, Penobscot Bay, Hancock County, Maine (not Rozier).

Siquis; arroyo or creek, Los Angeles County, California (not Isique, Sequit, nor Siquit).

Soque; post-office and river, Habersham County, Georgia (not Sookee nor Soquee).

Stevenston; post-office and railroad station, Warrick County, Indiana (not Stephenson, Stephenston, Stevans, nor Stevens). Named after Judge Stevens.

Swarte; hill, Ulster County, New York (not Black, Crosiers, Swarts, nor Swartz).

Symmes; creek, Gallia and Lawrence Counties, Ohio (not Simms).

Tesnatee; creek, gap, militia district, and post-office, White County, Georgia (not Tesnata nor Tessantee).

Topanga; canyon, Los Angeles County, California (not Tobanao, Tobanca, nor Topango).

Tranters; creek, forming part of boundaries of Beaufort, Martin, and Pitt Counties, North Carolina (not Trantus).

Unicoi; gap and turnpike, White and Towns Counties, Georgia (not Unicoy).

Census of the Philippines.—Mr. Henry Gannett is on his way to Manila to assume expert statistical charge of the approaching census of the islands.

Mt. Foraker.—Careful measurement by the Brooks party in Alaska the past season showed that Mt. Foraker, the twin peak of Mt. McKinley, is about 17,000 feet high instead of 20,000.

The completion of the cable between Canada and Australia was celebrated on October 31, when the first eastward message was sent from Wellington, New Zealand. It was a message of congratulation from the premier of New Zealand to Sir Sanford Fleming, of Ottawa, as follows:

"Delighted to congratulate you on completion of great work of Pacific cable, thus rewarding your interest and labor in forging further link to advantage of our empire.

"SEDDON, *Premier*."

A bulletin soon to be issued by the United States Geological Survey contains a report by Dr C. W. Hayes and Mr William Kennedy on the Texas-Louisiana Oil Field, which is of particular interest at this time.

NOTE FROM DR GEORGE DAVIDSON

THE Geographical Society of the Pacific has fallen heir to the sum of five thousand dollars by the bequest of the late Mr John Dolbeer, of San Francisco. Mr Dolbeer had been one of the directors of the Society for many years, and had always taken a lively interest in geographic work, especially in all that related to the countries bordering the Pacific or contiguous thereto.

GEORGE DAVIDSON.

SAN FRANCISCO, CAL.,
October 16, 1902.

GEOGRAPHIC LITERATURE

Through Hidden Shensi. By Francis H. Nichols. Illustrated by photographs taken by the author. Chas. Scribner's Sons. New York, 1902. $3.50 *net.*

Eight hundred miles southwest of Pekin lies the province of Shensi. Its area is greater than that of England and Scotland combined. Its people are so isolated that the people of Pekin speak of the province as though it were a foreign country. Several years ago a famine ravaged the province, and the people of the United States, at the appeal of the *Christian Herald*, of New York, sent a fund for the sufferers. Mr Frank H. Nichols, acting as agent for the fund, went to Shensi to distribute the relief and report on the famine. "*Through Hidden Shensi*" is an interesting account of his experiences. The volume is very well written and shows that the author is an observing traveler, one who appreciated and was in turn liked and respected by the people among whom he journeyed.

The White World. Life and adventures within the Arctic Circle portrayed by famous living explorers. Collected and arranged for the Arctic Club by Rudolf Kersting. Illustrated. New York: Lewis, Scribner & Co. 1902. $2.00 *net.*

The author has brought together in this volume some twenty or more remarkable descriptions of arctic life. Admiral Schley contributes the opening chapter—a thrilling story of the rescue of Greely's heroic survivors. Amos Bonsall, the only survivor of the famous Kane expedition of 1853–1855, compares present methods of arctic exploration with those of fifty years ago. Three members of Greely's expedition, Major Brainard, Henry Biederbick, and Francis Long, contribute respectively chapters on "Farthest North with Greely," "Polar Hospitals," and an "Arctic Bear Hunt." The wildest romance of Hope or Weyman is tame beside the grim tragedy of the Greely expedition as partly told by these three heroes.

"Lost on the Ice Cap," by Hugh J. Lee, a member of Peary's expedition of 1893–'94, is the author's experience of being lost on the ice cap in winter and wandering two nights and one day without food before regaining camp. It is a story of fortitude and pluck that has few equals.

But "The White World" has its more cheerful chapters as well. Mrs. F. L. Lee contributes "An Arctic Honeymoon;" Albert Operti several pages on "An Artist in the Frozen North;" the editor, Rudolf Kersting, a chapter on "Photography in the Far North," and Robert Stein something about Eskimo music.

Vienna and the Viennese. By Marie Homer Lonsdale. Illustrated. Philadelphia: Henry T. Coates & Co. 1902.

Miss Lonsdale is the author of "Scotland—Historic and Romantic," published by the same firm several months ago. From her latest work one obtains an admirable impression of what Vienna is like. Many anecdotes are told about the famous statesmen and emperors who for centuries made history at the great capital. The volume will be specially interesting to those who have been fortunate enough to have visited the city.

Mineral Resources of the United States, Calendar Year 1901. By David T. Day. Washington: U. S. Geological Survey. 1902.

This valuable volume contains a series of interesting reports by experts on the development of the mineral industries of the United States in 1901. The value of our mineral productions during that year exceeded one billion dollars for the second time in our history. The "Introduction and Summary" are by Dr David T. Day; the reports on Iron Ores and Manganese Ores by John Birkinbine; Statistics of American Iron Trade, by James M. Swank; Copper, Lead, Zinc, by Charles Kirchoff; Gold and Silver, by George E. Roberts; Aluminum, Platinum, etc., by Joseph Struthers; Coal and Coke, by E. W. Parker; Petroleum and Natural Gas, by F. H. Oliphant; Precious Stones, by George F. Kunz; Mica, Asbestos, etc., by Joseph Hyde Pratt; Ores of Economic Importance, by E. O. Hovey.

Picturesque Sicily. By William Agnew Paton. Illustrated. New York and London: Harper & Bros. 1902.

This is a new and revised edition of a work first published in 1897. It is mainly a description of the picturesque island as it is today, but the author does not forget the historical interest which clings to every town and hamlet in the island that for centuries was the battlefield of the Greek, the Carthaginian, the Roman, the Saracen, and the Norman. Some unusually fine pictures illustrate the text.

Stanford's Compendium of Geography. Vol. I: South America. Vol. II: Central America and West Indies. With many maps and illustrations. By A. H. Keane. Edited by Sir Clements Markham. New York. 1901.

Useful and interesting information is contained in these two volumes. For a general knowledge of South and Central American resources and geography, one could not do better than consult them. In the former series of Stanford's Compendium South and Central America filled the pages of only one volume, but in recent years so much more has been learned about these countries, and so much greater interest is felt in them, that the editor has now devoted two large volumes to the subject. Some excellent maps and illustrations accompany the text.

All the Russias. By Henry Norman, M. P. With 129 illustrations and four maps. New York: Chas. Scribner's Sons. 1902. $4 *net.*

Mr Norman has for many years been a student and writer on Russian subjects. He has made four separate journeys in the Russian Empire—one of nearly twenty thousand miles. His observations and conclusions therefore deserve much consideration. The more interesting portions of the present volume deal with Finland, Siberia, and the economics and foreign politics of the government.

Of special interest to Americans is the chapter on "Russia and England." Mr Norman does not share the common belief that a death struggle between England and Russia is destined in the more or less remote future. "I am profoundly convinced," he says, "that a good and lasting understanding between the two nations is not only desirable above all things, but also well within the range of possibility." Three obstacles exist to a good understanding—China, India, and Persia. In China Russia has won what she wanted, the control of Manchuria and Mongolia, and Mr Norman is not sure but she has undertaken a responsibility the end of which has not come. The danger of India, where the real strain between the British and Russian interests lies, the author considers much exaggerated. "I have endeavored to study every fact bearing upon it [Russia's intentions with regard to India], and after long consideration I have come to the conclusion that the colossal and perilous undertaking of an armed invasion of India, with a view to conquest, is not part of the plan of any really responsible Russian, either statesman or soldier. . . . I sincerely believe the most influential of all would not have India as a gift. . . . The truth is, in my opinion, that Russia regards her position on the Indian frontier as a lever to bring pressure to bear, whenever necessary, upon England in other matters. . . . But the notion of invading India to annex and administer it does not seriously exist in Russia."

Russia's ambition in Persia is not directed against England, but is a struggle for air, for sea outlets. Persia is now financially a vassal of Russia, who will soon have her ports on the Persian Gulf. Captain Mahan, Lord Curzon, and English statesmen have declared that Russian ports on the Persian Gulf will seriously menace the Suez route to India and the Far East and would endanger British power in Asia. But Mr Norman argues that Russian occupation of the Persian seacoast would simply make it necessary for England to strengthen her Indian fleet and build a branch railway or two to the northwestern frontier. Mr Norman concludes the chapter with the following sentences: "We may await with comparative equanimity the development of a *rapprochement* based upon geography and history, upon sentiment and upon interest. I believe it will come in time; if not today, then tomorrow."

Glimpses of China and Chinese Homes. By Edward S. Morse. Illustrated from sketches in the author's journal. Boston: Little, Brown & Co. 1902. $1.50 *net.*

So many books relating to China have been published during the last few years that it is impossible to read them all, and one even wonders if there is anything more about this mysterious land and people that can be said. In the present work, however, Professor Morse presents many quaint descriptions and unusual pen-and-ink sketches, in which new glimpses of Chinese homes are given. The author carried his sketch book wherever he went and was wont to sketch hastily what he saw. He has thus been able to depict very clearly the every day life of the Chinaman's household.

International Year Book for 1901. Editor, Frank Moore Colby. With maps and illustrations. New York: Dodd, Mead & Co.

This annual volume is planned as a cyclopedia of general information about those places, persons, and subjects which attain prominence during the year. The Year Book for 1901 is the most comprehensive that has yet been published, and reflects much credit on the editor, Mr. Colby. There are good reviews of arctic and antarctic exploration of 1901, accompanied by excellent maps; of American progress in the Philippines, of archæological discoveries in Babylonia, Egypt, Greece, and in the United States. A valuable feature are articles on the industries of the United States in 1901. As a work of reference, the Year Book is indispensable.

The Home Life of the Borneo Head-Hunters. By William Henry Furness. Illustrated. Philadelphia: J. P. Lippincott Co. 1902. $7.50 *net*.

One hundred magnificent full-page illustrations, most of them from photographs taken by the author, describe in most graphic manner the life, looks, and customs of this far-off people. One picture shows a war and racing canoe, 120 feet long and cut out of a single log, in which are seated, without crowding, 100 warriors. Mr Furness' narrative of his life among the head-hunters is, however, no less interesting than the pictures he brought back with him.

He found human nature the same in Borneo as in the United States. "The youths have their languishing loves, which they are eager to confide to sympathetic ears. . . . The Bornean mothers and fathers think their babies the prettiest that ever were born." After a month is passed in a kayou or kenyah house, "the host and hostess, who, on first sight, seemed to be uncouth savages, frightfully mutilated as to eyes, ears, and teeth, are regarded as kind-hearted, devoted friends. It becomes well-nigh impossible to realize that they cannot add the simplest of sums without the aid of fingers and toes."

Japan and Her People. By Anna C. Hartshorne. Illustrated. 2 vols. Philadelphia: Henry C. Coates & Co. 1902.

These two volumes on Japan are of a series which Messrs Coates & Co. are publishing descriptive of different countries and cities. Like all in the series, the present volumes are written in an entertaining popular style and are handsomely illustrated with photogravures. Into her descriptions of noted buildings and scenes the author has woven the romances that the people believe and tell about the places. The work can hardly be called original or described as showing much research, but perhaps for that very reason will appeal to a larger number of travelers and readers.

Historical Sources in Schools. Report to the New England History Teachers' Association. By a select committee — Charles D. Hazen, chairman—and Professors Bourne, Dean, Farrand, and Hart. New York: The Macmillan Co. 1902. 60c.

The aim of this book is excellent—to present a bibliography of such original documents as are easily obtained, in order that history may be studied at its first source, and not as interpreted by others in books.

The committee have done their task excellently and prepared a large list of original documents. It would be well, however, in a second edition of the work to include some of the personal narratives of the great explorers, Marco Polo, Columbus, Cook, Livingstone, Stanley, and others, some of whom set in motion political forces that changed the course of history.

THE NATIONAL GEOGRAPHIC SOCIETY

During the season of 1902–1903 the National Geographic Society presents in Washington, D. C., three courses of meetings—Popular Lectures, Technical Meetings, and Lenten Lectures. These courses have been planned with great care to include those problems of a geographic character which are of special interest to the general public at the present time. Arrangements have been made for addresses in the Popular Course on the geographic distribution and mining of hard and soft coal, Mr Peary's work in the Arctics during the last four years, the tragedy of Saint Pierre, Colombia and the Isthmian Canal, the commercial expansion of Argentina, and the Macedonian question. The arrangements for the later part of the season are so far provisional as to permit the introduction of specially timely topics

The interest shown last year in the Technical Meetings, which were planned for scientific men actively engaged in geographic work and for persons specially interested in such work, has led the Board to continue such meetings.

The subject of the Afternoon, or Lenten, Course will be announced in a later program.

REGULAR MEETINGS

of the Society for the presentation of technical papers and discussion will be held on Friday evenings, at 8 o'clock, commencing November 7, and alternating with the Popular Lectures. As the new home of the Society will not be completed before January 15, 1903, these meetings will be held for the present in the Assembly Hall of the Cosmos Club. The course has been planned to form a series on the geographic work of the great scientific bureaus of the government. Mr Richard U. Goode, Chairman of the Committee on Technical Meetings, announces the following program:

November 7.—"Some of the Administrative and Industrial Problems of Porto Rico." Hon. Wm. F. Willoughby, Treasurer of Porto Rico.

November 21.—"The work of the U. S. Coast and Geodetic Survey." Hon. O. H. Tittmann, Superintendent of U. S. Coast and Geodetic Survey.

December 5.—"The Work of the U. S. Weather Bureau." Dr Willis L. Moore, Chief of U. S. Weather Bureau.

December 19.—"The U. S. Signal Corps." Gen. A. W. Greely, Chief Signal Officer, U. S. A.

At later meetings the geographic work of the Hydrographic Office of the Navy Department, of the Experiment Stations of the Agricultural Department, of the Census Office, of the Naval Observatory, of the Geological Survey, and of the Library of Congress will be discussed.

THE POPULAR COURSE

will be delivered in the National Rifles Armory, G street between Ninth and Tenth streets northwest, on Friday evenings, at 8 o'clock, commencing November 14 and alternating with the Technical Meetings, which will be held in the Assembly Hall of Cosmos Club until the new home of the Society on Sixteenth and M streets is completed.

The following dates have been definitely assigned:

November 14.—"The Coal Resources of the United States." Dr David T. Day, Chief of Division of Mineral Resources, U. S. Geological Survey. (Illustrated.)

November 29.*—"Explorations in the Arctics, 1898–1902." Commander Robert E. Peary, U. S. N. (Illustrated.)

December 12.—"Argentina—Present and Future." E. L. Corthell, C. E. (Illustrated.)

January 9.—"The Turk and His Rebellious Subjects." Mr William E. Curtis. (Illustrated.)

January 23.—"The Tragedy of Saint Pierre." Mr George Kennan. (Illustrated.)

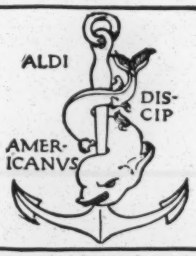
Provisional arrangements have also been made for lectures on Colombia and the Isthmian Canal; America Before the Advent of Man; The Geographic Distribution of Insanity in the United States; Russia of Today (by Paul du Chaillu), and a lecture by Mr John Muir.

The Lenten Course of five lectures will be delivered in Columbia Theater, F street, near Twelfth, at 4.20 o'clock, on Wednesday afternoons of February 11, 18, 25, and March 4, 11.

The subject of this course and the speakers assigned for the special topics will be announced in a later program.

* Please note that this lecture is Saturday evening.

IMPORTANT AUTUMN PUBLICATIONS OF



McCLURE PHILLIPS AND COMPANY

POETRY

Golden Numbers: A Book of Verse for Youth

Edited by Kate Douglas Wiggin & Nora Archibald Smith

KATE DOUGLAS WIGGIN

NORA ARCHIBALD SMITH

While made for children, this is not a childish book. It contains no poetry written especially for children under the misconception that jingles and nonsense and puerile sentiment are the necessary measure of the child's mind. It is composed entirely, as its name signifies, of real poetry, the authentic poetry of the great masters. It is the largest and most complete book of its kind ever published, containing 718 selections, partial or complete. More than one hundred and fifty authors are represented. Mrs. Wiggin has contributed an introduction, and a novel set of little introductions or interleaves for the separate sections. *Net, $2.00*

DESCRIPTION

Indian Boyhood

By Charles A. Eastman

This book as a picture of Indian life, by one who passed his own boyhood amid the scenes which he describes, is absolutely unique. It is the only instance in literature, of aboriginal life in America, treated not from without, but from within by one who is the hero of his own experiences. Dr. Eastman is a full-blooded Sioux Indian, who in abandoning wild life has not lost his love for the old scenes and the old traditions, manners and customs of his race. His narrative is full of beauty and poetry and information.

The illustrations by Mr. Blumenschein were made by him during a long sojourn among the Indian tribes of South Dakota.

Cloth, large 12mo. Many illustrations by E. L. Blumenschein. Net, $1.60

McClure, Phillips & Co., 141 E. 25th St., New York

NEW EDITIONS

The Complete Works of William Hazlitt

With an Introduction by W. E. Henley

WILLIAM HAZLITT

That the entire writings of such a master should never before have been collected in a uniform edition, similar to those of DeQuincey and Lamb, has always been a matter of regret to lovers of English letters. The Dent edition supplies this deficiency in a manner that cannot but delight every admirer of Hazlitt. The set, which is in twelve volumes, includes all of Hazlitt's literary, political, dramatic, and miscellaneous writings. The edition is limited to three hundred and fifty sets.

Net, $36.00

Ivan Ilyitch

By Count Leof Tolstoy

The second of a new series of translations, direct from the Russian, of the early novels of Tolstoy, by Mrs. Garnett. *Anna Karenin* appeared last season, and *War and Peace* is announced for next year.

Net, $2.00

ART

Hogarth

By Austin Dobson and Sir Walter Armstrong

SIMON, LORD LOVAT
By HOGARTH

This book, which contains seventy plates, is a magnificent monument to the memory of Hogarth. In a way it presents a new treatment of the great English artist. For while not neglecting his unquestioned gifts as a social censor and humorist, it is part of the aim of the present publication to accentuate the legacy he has left as a painter. Published in three limited editions.

Large imperial quarto, net, $25.00
Additional portfolio of plates on India paper, net, $60.00
Additional portfolio of plates on India paper and Japanese vellum, net, $120.00

MODERN THOUGHT

Mutual Aid, a Factor in Evolution

By Prince Kropotkin

It has been too much taken for granted that evolution of the race takes place only by the weakest going to the wall and by the stronger surviving, and that any means of preventing this natural process will lead to the degeneration of the race. Prince Kropotkin shows that there is another side to the question, suggested by Darwin, but not so fully worked out by him.

McClure, Phillips & Co. 141 E. 25th St., New York

BIOGRAPHY

Jeanne d'Arc

With introduction and critical notes by T. Douglas Murray

Translations from the verbatim reports in Latin, of the ecclesiastical proceedings in the trial of Jeanne d'Arc, which have recently come to light. It is probably the only instance of a complete biographical record of the greatest historical importance being taken down by evidence on oath. The depositions cover the whole pathetic story of the childhood of the Maid, her military career as commander-in-chief of the French armies, her capture, imprisonment, and death at the stake, as described by eye-witnesses.

Net, $5.00

DANTE

Dante and His Time

By Karl Federn

A distinguished work by a prominent Dante scholar. The aim of the work is to give a picture of Dante in his proper historical *milieu*—to show him in the Florence of the fourteenth century as a figure in the political, literary and social life of his times.

Net, $2.00

LETTERS

The Letters of Daniel Webster

Edited by C. H. Van Tyne, Ph.D.

This is the definitive edition of the correspondence of the great American orator and statesman. Everything concerning the age in which Webster lived and worked is now legitimate matter for history, and the present volume will be of more assistance in completely reconstructing that age for the student of historical research and for the general reader than any other document in existence.

Net, $5.00

Letters from Egypt

By Lady Duff Gordon, with an introduction by George Meredith and frontispiece portrait after painting by G. F. Watts.

The reprint of a famous series of letters by one of the most brilliant Englishwomen of her time. They are of permanent literary and historical value, and the personality of the woman, whose greatness of heart and of mind will make them live, is drawn by Mr. Meredith, in a sympathetic manner.

Net, $2.50

LADY DUFF GORDON

McClure, Phillips & Co., 141 E. 25th St., New York

Office Hours: 8.30 A. M. to 5 P. M. Telephone, Main 471

NATIONAL GEOGRAPHIC SOCIETY

OFFICES Rooms 107, 108 Corcoran Building
Fifteenth and F Sts. N. W., Washington, D. C.

ALEXANDER GRAHAM BELL . President — W J McGEE . . . . Vice-President
JOHN JOY. EDSON . . . . Treasurer — A. J. HENRY . . . . . Secretary
ELIZA R. SCIDMORE . . Foreign Secretary

BOARD OF MANAGERS

1900-1902	1901-1903	1902-1904
CHARLES J. BELL	MARCUS BAKER	A. GRAHAM BELL
GEORGE DAVIDSON	HENRY F. BLOUNT	HENRY GANNETT
WM. M. DAVIS	F. V. COVILLE	A. W. GREELY
JOHN JOY EDSON	D. C. GILMAN	ANGELO HEILPRIN
G. K. GILBERT	S. H. KAUFFMANN	RUSSELL HINMAN
A. J. HENRY	WILLIS L. MOORE	W J McGEE
DAVID J. HILL	ISRAEL C. RUSSELL	GIFFORD PINCHOT
C. HART MERRIAM	R. D. SALISBURY	O. H. TITTMANN

The National Geographic Magazine is sent free of charge to all members of the National Geographic Society

---

Recommendation for Membership in the NATIONAL GEOGRAPHIC SOCIETY

The following form is enclosed for use in the nomination of persons for membership

Please detach and fill in blanks and send to the Secretary

DUES: Annual membership, $2; Life membership, $50. If check be enclosed, please make it payable to order of the National Geographic Society, and, if at a distance from Washington, remit by New York draft or post-office money-order.

.....*1902*

To the Secretary, National Geographic Society, Washington, D. C.:

Please propose.....

address:.....

.....

for membership in the Society.

.....

HENRY ROMEIKE'S
BUREAU OF PRESS CUTTINGS

110 Fifth Avenue, New York

Reads every paper of importance published in the United States, and through its European agencies in London, Paris, Berlin and Vienna every paper of importance published in Europe and the British Colonies. One subscription on any given subject will bring notices from the United States, and if desired also from the European papers.

WRITE FOR TERMS

"The King's Highway."

TO THE
GATEWAYS OF COMMERCE
THROUGH THE
CENTERS OF POPULATION,

adding greatly to the interest of your journey, without increasing its expense beyond what you would expect to pay for the "best," which you secure if you travel by the

NEW YORK CENTRAL LINES.

A Copy of "Four-Track Series" No. 17, "Urban Population in 1900," will be sent free, on receipt of a two-cent stamp by George H. Daniels, General Passenger Agent, New York Central & Hudson River R. R., Grand Central Station, New York.

$3,000.00
for PHOTOGRAPHS
Awarded for all classes of photographs. All kinds of cameras fitted with our lenses. Souvenir booklet to every contestant. Costs nothing to enter. Special booklet FREE.
Bausch & Lomb Optical Co.

The Manhattan Press-Clipping Bureau

ARTHUR CASSOT, Proprietor

NEW YORK (Knickerbocker Building) LONDON

COR. FIFTH AVENUE AND 14TH STREET, NEW YORK

Will supply you with all personal reference and clippings on any subject from all the papers and periodicals published here and abroad. Our large staff of readers can gather for you more valuable material on any current subject than you can get in a lifetime.

TERMS: 100 clippings, $5.00; 250 clippings, $12.00; 500 clippings, $22.00; 1,000 clippings, $35.00.

FOUND IN A MOMENT

Clippings and other papers that are slipped in the pockets of the

Perfect Scrap Book

The best book for busy men. Also ministers, doctors, lawyers, students, housewives and others who need to file memoranda, recipes, and the like where they may be seen and got at when wanted. They quickly become a storehouse of information. Plain buckram cloth covers as well as leather bound styles. The Holiday edition makes a beautiful as well as useful present. $1.48. "Ajax" editions at $1.25 and $1.50. College edition, $2.00. Library edition, $3.00. All improved with back allowing flat opening and non-bulging. Pocket for private correspondence, 20c. Pocket wallet, 25c.

All stationers and engravers sell them, or by mail on receipt of price or, postage. Illustrated price list sent on request.

THE PERFECT SCRAP BOOK CO.
Dept. 21, 393 Broadway, New York

Office Furniture

Our Department of Office Furniture is replete with everything requisite to the furnishing of a modern Office, a Bank, a Committee Room, etc. Handsome Combination Book Cases, Sectional Book Cases, Revolving Book Cases, Roll-top Desks, Flat-top Desks, Standing Office Desks, Typewriter Desks, Typewriter and Letter-press Stands, Office Chairs, Sectional Filing Devices, Office and Library Tables, Leather Furniture, Etc.

The Sectional Book Case

Is the case for the home or office. Every one has some books which he wishes to protect. When there are not enough to fill an ordinary book case, one or two sections may be had at a very small expense, and as the number of volumes increases additional sections can be added—and the book case grows as book space is needed. Whether you have one section or more, you have a complete book case. We carry the "Gunn," the "Casler," and the "Danner"—each has its special feature—in the most popular woods and finishes.

$1.15 per Section . . Up

Without Glass, in Solid Oak

A special finish to suit the woodwork of any particular room made to order without additional cost. We shall be pleased to have you call and examine them.

THIRD FLOOR

WOODWARD AND LOTHROP

New York . . Washington . . Paris

PRESS OF JUDD & DETWEILER, WASHINGTON, D. C.